

Appendix G

Example SSID/SID Airworthiness Directive

The following are sample, generic SSID/SID AD paragraphs which implement the Team's recommendations. Only the SSID/SID AD paragraphs with requirements for inspection program revisions for repairs and modifications are represented here. The complete AD wording is not included. These sample AD paragraphs were written only for the purpose of illustrating the Team's recommendations pertaining to compliance times for various situations. The sample paragraphs have not been reviewed by anyone outside of the Team for compliance with AD standards.

Basic SSID/SID Inspection Requirements

SSID/SID program specific paragraphs will be different for different airplanes and programs. These initial paragraphs spell out the basic SSID/SID inspection requirements and the requirements for repair of SSI/PSE structure that is found cracked during a SSID/SID inspection. The 727 AD requires repair in accordance with an FAA approved method. The MD-80 draft NPRM requires repair in a manner approved by the Manager, LAACO. Either method is acceptable, depending upon SSID/SID program specifics, fleet size, and other factors that determine the burden approval of the repairs by the ACO.

Repairs and Non-STC Design Changes Accomplished Prior to the Effective Date of the AD

Sample paragraph (a) requires a search for repairs and non-STC design changes. For SSI/PSE whose threshold has passed at AD effectivity, compliance is required within 18 months. For SSI/PSE whose threshold has not passed at AD effectivity, compliance is required within 18 months after the SSID/SID threshold has been reached or within 5 years after AD effectivity, whichever occurs first. Paragraph (a)(iii) for repairs or non-STC design changes that have not affected a SSI/PSE, specifies criteria which, if met, drive a requirement for damage tolerance based special inspections within 5 years after AD effectivity. No interim inspection action is required.

(a) For airplanes on which structural repairs and non-STC design changes have been accomplished prior to the effective date of this AD accomplish (a)(i), (a)(ii) and (a)(iii) as applicable, unless previously accomplished:

- (i) For SSI/PSE whose threshold has passed prior to the effective date of this AD, within 18 mo. after the effective date of this AD, identify all repairs and non-STC alterations that have been accomplished prior to the effective date of this AD that have affected the SSI/PSE, and assess the damage tolerance characteristics of the affected SSI/PSE. Determine the effectiveness of the applicable inspection for the SSI/PSE and, if not effective, revise the FAA-approved maintenance or inspection program to include an inspection method for each affected SSI/PSE, and to include the compliance times for initial and repetitive accomplishment of each inspection. The Manager of the (insert name**

of airplane's Type Certificate Managing ACO) ACO, shall approve the new inspection method and compliance times.

- (ii) For SSI/PSE whose threshold has not passed prior to the effective date of this AD, within 18 months after the SSID/SID threshold for that SSI/PSE is reached, or within 5 years after the effective date of this AD, whichever occurs first, identify repairs and non-STC alterations that have affected the SSI/PSE and assess the damage tolerance characteristics of the affected SSI/PSE to determine the effectiveness of the applicable inspection for the SSI/PSE and, if not effective, revise the FAA-approved maintenance or inspection program to include an inspection method for each affected SSI/PSE, and to include the compliance times for initial and repetitive accomplishment of each inspection. The Manager of the (insert name of airplane's Type Certificate Managing ACO) ACO, shall approve the new inspection method and compliance times.
- (iii) For all repairs or non-STC alterations accomplished prior to the effective date of this AD that have not affected a SSI/PSE, within 5 years after the effective date of this AD, identify those repairs and non-STC alterations that require damage tolerance based special inspections and revise the FAA-approved maintenance or inspection program to include an inspection method for the new or affected structure, and to include the compliance times for initial and repetitive accomplishment of each inspection. The Manager of the (insert name of airplane's Type Certificate Managing ACO) ACO, shall approve the inspection methods and compliance times. Special inspections are required if the following criteria are met: *(Insert criteria for establishment of special inspections as detailed in recommendation 3(b) of this report)*

Criteria Note: Recommendation 3(b) of the SID Team Report recommends the development of criteria for the determination of what repaired, altered or modified structure require damage tolerance based special inspections. Recommendation 3(b) provides example criteria and recommends a criterion be jointly developed and adopted by all the cognizant ACO's.

Note: Insert a note as in note 5 of the 727/737 AD's.

For the purpose of this AD, the SSI/PSE is “affected” if it has been physically altered or repaired, or if the loads acting on the SSI/PSE have been increased or redistributed. The effectiveness of the applicable inspection method and compliance time should be determined based on a damage tolerance assessment methodology, such as that described in FAA Advisory Circular AC No. 91-56A, dated April 29, 1998.

Note: Insert a note as in Note 6 of the draft MD-80 AD accepting the Repair Assessment Program Documents (RAP) as a method of compliance.

Report No. XX, dated xx/xx/xx, provides inspection/replacement programs for certain repairs to the fuselage pressure shell. These repairs, and inspection/replacement programs are acceptable methods of compliance for the repair and repair inspection program requirements of paragraph (a) and (c) of this AD.

STC's Accomplished Prior to the Effective Date of the AD

Sample paragraph (b) requires an evaluation for STC design modifications accomplished prior to the effective date of the AD. For modifications that are determined to meet the criteria for special damage tolerance based inspections, there is a requirement to submit a plan within 18 months and to accomplish visual inspections at 18 month intervals as an interim action. Revision of the maintenance program is required within 5 years after AD effectivity.

(b) For STC modifications accomplished prior to the effective date of this AD, accomplish (b)(i) and (b)(ii).

(i) For STC modifications that have physically affected an SSI/PSE, accomplish paragraphs (b)(i)(1), (b)(i)(2) and (b)(i)(3).

(1) Within 18 months after the effective date of this AD, submit a plan that describes how a damage tolerance based inspection program will be implemented. The plan must include a description of how an assessment of the damage tolerance characteristics of the new or affected structure will be accomplished to determine any necessary revision to the FAA-approved maintenance or inspection program.

Note: The plan must include a detailed description of the STC; methodology for identifying affected SSI/PSE; method for developing loads and validating the analysis; methodology for evaluating and analyzing the damage tolerance characteristics of each affected SSI/PSE; and proposed inspection method. The plan would not need to include all of these elements if the operator can otherwise demonstrate that its plan will enable the operator to comply with paragraph (b)(i)(3)

(2) Within 18 months after the effective date of this AD, perform a detailed visual inspection in accordance with a method approved by the Manager of the STC Managing ACO to detect cracks.
A. If no crack is detected, repeat the detailed visual inspection thereafter at intervals not to exceed 18 months.
B. If any crack is detected, prior to further flight, repair it in accordance with a method approved by the Manager of the STC Managing ACO.

(3) Within 5 years after the effective date of this AD, revise the FAA-approved maintenance or inspection program to include an inspection method for the new or affected structure, and to include the compliance times for initial and repetitive accomplishment of each inspection. The Manager of the STC Managing ACO, shall approve the inspection methods and compliance times. Accomplishment of the actions specified in this paragraph constitutes terminating actions for the repetitive inspection requirements of paragraph (b)(i)(2) of this AD.

(ii) Identify STC modifications that require damage tolerance based special inspections and accomplish paragraphs (b)(i)(1), (b)(i)(2) and (b)(i)(3). Special inspections are required if the following criteria are met: *(Insert criteria for establishment of special inspections as detailed in recommendation 3(b) of this report)*

Criteria Note: Recommendation 3(b) of the SID Team Report recommends the development of criteria for the determination of what repaired, altered or modified structure require damage tolerance based special inspections. Recommendation 3(b) provides example criteria and recommends a criterion be jointly developed and adopted by all the cognizant ACO's.

Repairs, alterations, and modifications accomplished after the effective date of the AD
This sample paragraph requires a damage tolerance based inspection program be included in the operators maintenance or inspection program within 18 months of installation for all repairs, alterations and modifications.

(c) For airplanes on which the structure has been repaired or physically altered by any repair or design change (including STC) after the effective date of this AD, within 18 months after that modification, alteration, or repair, assess the damage tolerance characteristics in accordance with paragraph (c)(i) and (c)(ii):

(i) Identify each SSI/PSE affected by each repair or design change and assess its damage tolerance characteristics. Determine the effectiveness of the applicable inspection for the SSI/PSE and, if not effective, revise the FAA-approved maintenance or inspection program to include a damage tolerance based inspection method for each affected SSI/PSE, and to include the compliance times for initial and repetitive accomplishment of each inspection. The Manager of the STC Managing ACO shall approve the new inspection method and compliance times for STC's. The Manager of the (insert name of the airplane's Type Certificate Managing ACO) shall approve the new inspection method and compliance times for all other design changes and repairs.

(ii) For structure which requires damage tolerance based inspections revise the FAA-approved maintenance or inspection program to include an inspection method for the new or affected structure, and to include the compliance times for initial and repetitive accomplishment of each inspection. The Manager of the

STC Managing ACO shall approve the new inspection method and compliance times for STC's. The Manager of the (insert name of the airplane's Type Certificate Managing ACO) shall approve the new inspection method and compliance times for all other design changes and repairs: *(Insert criteria for establishment of special inspections as detailed in recommendation 3(b) of this report)*

Criteria Note: Recommendation 3(b) of the SID Team Report recommends the development of criteria for the determination of what repaired, altered or modified structure require damage tolerance based special inspections. Recommendation 3(b) provides example criteria and recommends that a criterion be jointly developed and adopted by all the cognizant ACO's.

Note: Insert a note as in Note 5 of the draft MD-80 AD regarding the 3 stage approval process.

The approval of a repair in accordance with paragraph (c) of this AD may be accomplished in three stages: (1) static strength approval in accordance with an operator's FAA-approved maintenance procedures' (2) damage tolerance analysis approval at the times specified in paragraph (c) or (d) of this AD, as applicable; and (3) NDI method approval 2 years prior to the inspection threshold determined by the damage tolerance analysis.

Note: Insert a note as in Note 6 of the draft MD-80 AD accepting the Repair Assessment Program Documents (RAP) as a method of compliance.

Report No. XX, dated xx/xx/xx, provides inspection/replacement programs for certain repairs to the fuselage pressure shell. These repairs, and inspection/replacement programs are acceptable methods of compliance for the repair and repair inspection program requirements of paragraph (a) and (c) of this AD.